

WHAT IS CLAIMED IS:

1. An apparatus for treating wastewater comprising means for introducing at least one alkane into the wastewater.
2. The apparatus of Claim 1, further comprising means for introducing oxygen into the wastewater.
3. The apparatus of Claim 2, wherein the oxygen is introduced in the form of air.
4. The apparatus of Claim 1, wherein the at least one alkane comprises butane.
5. The apparatus of Claim 4, wherein the butane stimulates the growth of butane-utilizing bacteria.
6. The apparatus of Claim 5, wherein the butane-utilizing bacteria comprise aerobic bacteria.
7. The apparatus of Claim 5, wherein the butane-utilizing bacteria comprise anaerobic bacteria.
8. The apparatus of Claim 1, wherein the wastewater comprises sludge.
9. The apparatus of Claim 1, wherein the wastewater comprises municipal wastewater.
10. The apparatus of Claim 1, wherein the wastewater comprises industrial wastewater.
11. The apparatus of Claim 1, wherein the wastewater comprises agricultural wastewater.
12. The apparatus of Claim 1, wherein the wastewater comprises chemical effluent.
13. An apparatus for treating wastewater comprising:  
a wastewater containment vessel; and  
at least one alkane injector in flow communication with the wastewater containment vessel.

14. The apparatus of Claim 13, further comprising at least one oxygen-containing gas injector in flow communication with the wastewater containment vessel.

15. The apparatus of Claim 14, wherein the oxygen-containing gas injector injects air into the wastewater containment vessel.

16. The apparatus of Claim 13, wherein the alkane injector injects butane into the wastewater containment vessel.

17. The apparatus of Claim 13, wherein the wastewater comprises sludge.

18. The apparatus of Claim 13, wherein the wastewater comprises municipal wastewater.

19. The apparatus of Claim 13, wherein the wastewater comprises industrial wastewater.

20. The apparatus of Claim 13, wherein the wastewater comprises agricultural wastewater.

21. The apparatus of Claim 13, wherein the wastewater comprises chemical effluent.